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> American Volt AV-1210X Dual 10-11 Inch Radiator Cooling Electric Fans User Manual

## American Volt AV-1210X

# American Volt AV-1210X Dual 10-11 Inch Radiator Cooling Electric Fans User Manual

Model: AV-1210X

## 1. INTRODUCTION

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Thank you for choosing the American Volt AV-1210X Dual 10-11 Inch Radiator Cooling Electric Fans. These high-performance fans are designed to provide efficient cooling for automotive engine radiators. Featuring 180-watt motors, they deliver significant airflow and are reversible for both puller and pusher configurations. Please read this manual thoroughly before installation and operation to ensure proper function and longevity of your product.

## 2. SAFETY INFORMATION

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- Always disconnect the vehicle's battery before performing any electrical work to prevent electrical shock or short circuits.
- Wear appropriate personal protective equipment, including safety glasses and gloves, during installation.
- Ensure all wiring connections are secure and properly insulated to prevent fire hazards or electrical malfunctions.
- Keep hands and loose clothing away from the fan blades when the fan is powered to avoid injury.
- Do not operate the fan if any part is damaged or if the wiring is exposed.
- Consult a qualified automotive technician if you are unsure about any installation steps.

## 3. PACKAGE CONTENTS

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Verify that all items are present in your package:

- 2 x American Volt 10-11 Inch Electric Cooling Fans
- 8 x Corner Mounting Bracket Feet
- 2 x Tie Strap Installation Kits (each kit includes 4 tie straps, 4 plastic locks, 4 spacers, 4 tension springs, 4 foam pads)

- 2 x Wiring Harnesses with Connectors

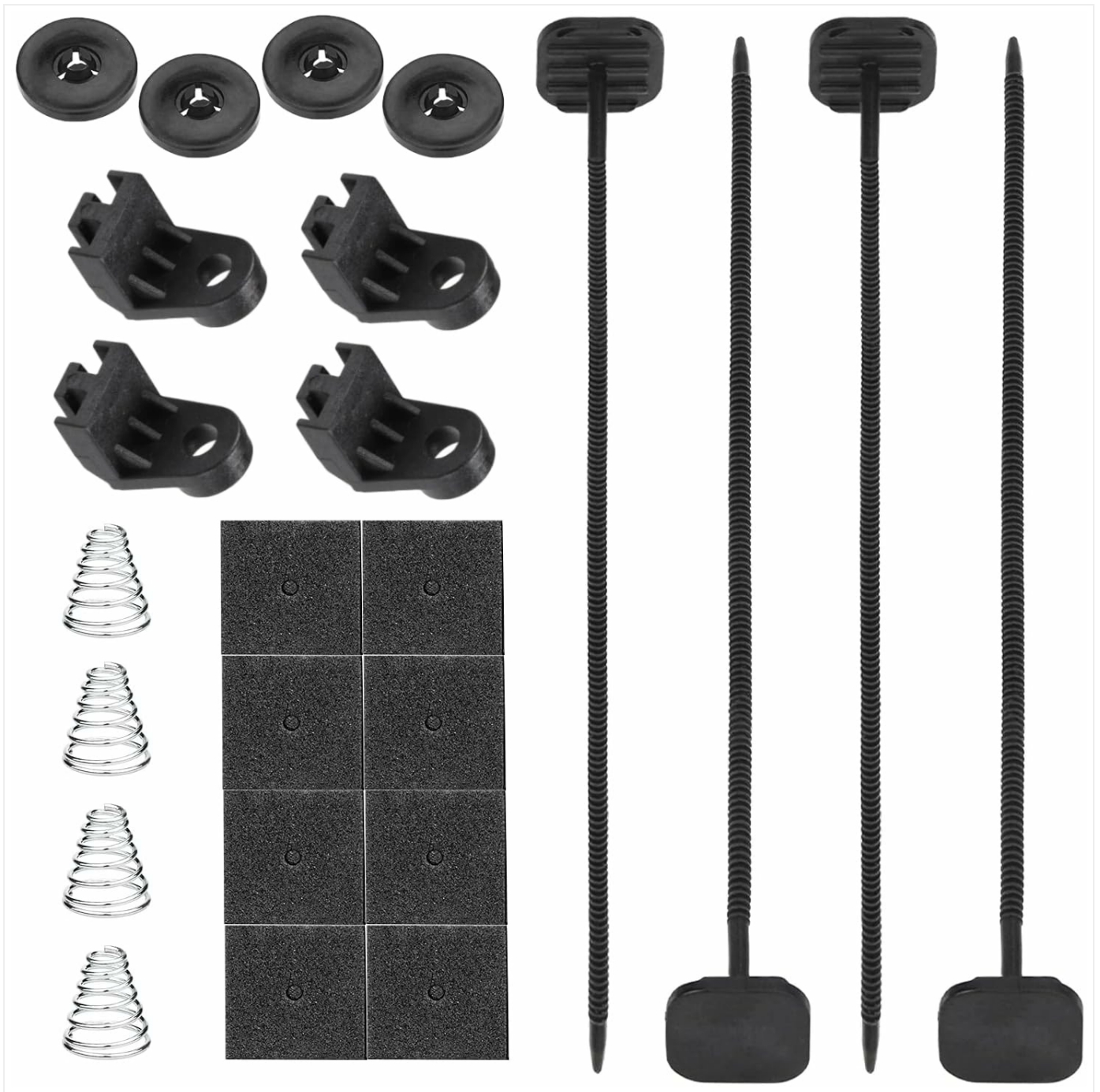


Image: Components of the tie strap installation kit and mounting brackets, including tie straps, plastic locks, spacers, tension springs, and foam pads.

## 4. SPECIFICATIONS

Feature	Specification
Model	AV-1210X
Fan Size	Dual 10-11 Inch Straight Blade
Motor Power	180 Watts per fan
Voltage	12 Volts DC

Feature	Specification
Current Draw	12 Amps per fan
Airflow (CFM)	2550 CFM per fan
Configuration	Reversible (Default: Air Puller)
Dimensions (Each Fan)	11.5" x 10.75" x 4" (center thickness), 1.4" (edge thickness)
Material	Alloy Steel, Plastic
Weight	Approximately 5 Pounds (each fan)

## 5. SETUP AND INSTALLATION

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### 5.1 Fan Configuration (Puller vs. Pusher)

The fans are configured as air pullers by default, meaning they pull air through the radiator. To convert them to air pushers (pushing air through the radiator), simply reverse the polarity of the wiring (swap the positive and negative wires) and flip the fan over. The fan blades are designed to operate efficiently in both directions.



Image: Front view of the American Volt 10-11 inch electric cooling fan, showing the blades and shroud.



Image: Rear view of the American Volt 10-11 inch electric cooling fan, showing the motor and wiring connection point.

## 5.2 Mounting the Fans

The fans can be mounted using the included corner mounting bracket feet or the tie strap installation kits.

### Option A: Using Corner Mounting Bracket Feet

1. Attach the 8 corner mounting bracket feet to the fan shrouds using appropriate hardware (not included).
2. Position the fans against the radiator or condenser.
3. Secure the fans to the vehicle's mounting points using bolts, nuts, and washers (not included) through the holes in the bracket feet. Ensure a secure and stable installation.



Image: Close-up view of the black plastic corner mounting brackets.

### **Option B: Using Tie Strap Installation Kits**

This method allows for direct mounting through the radiator fins.

1. Insert the pointed end of a tie strap through the fan mounting bracket and then through the radiator fins.
2. On the opposite side of the radiator, slide a spacer onto the tie strap, followed by a foam pad (adhesive side towards the radiator).
3. If desired, add a tension spring for additional stability.
4. Secure the tie strap with a plastic lock, pulling it tight until the fan is firmly against the radiator.
5. Repeat for all four mounting points per fan. Trim any excess tie strap.

## Electric Fan Tie Strap Installation Kit

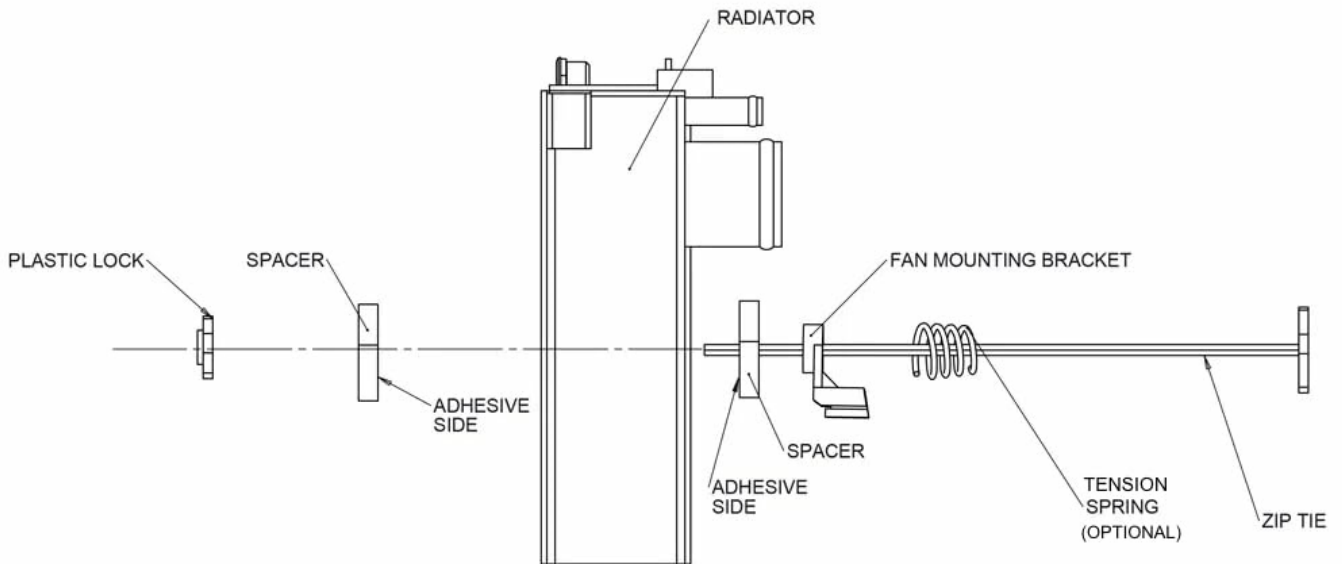


Image: Diagram illustrating the electric fan tie strap installation kit components and their assembly for mounting the fan to a radiator.

### 5.3 Wiring the Fans

Each fan comes with a wiring harness. The black wire is typically negative (-), and the blue wire is positive (+). Connect the fans to a 12V power source, typically through a relay and a temperature switch for automatic operation, or a manual switch.

- **Important:** Always use a fuse or circuit breaker appropriate for the fan's current draw (12 amps per fan) to protect the circuit.
- Connect the negative (-) wire (black) to a good chassis ground.
- Connect the positive (+) wire (blue) to a fused 12V power source, preferably through a relay triggered by a temperature switch or ignition.
- If converting to a pusher fan, reverse the polarity: connect the blue wire to ground and the black wire to the fused 12V source.
- Ensure all connections are crimped securely and insulated with heat shrink tubing or electrical tape to prevent

corrosion and short circuits.

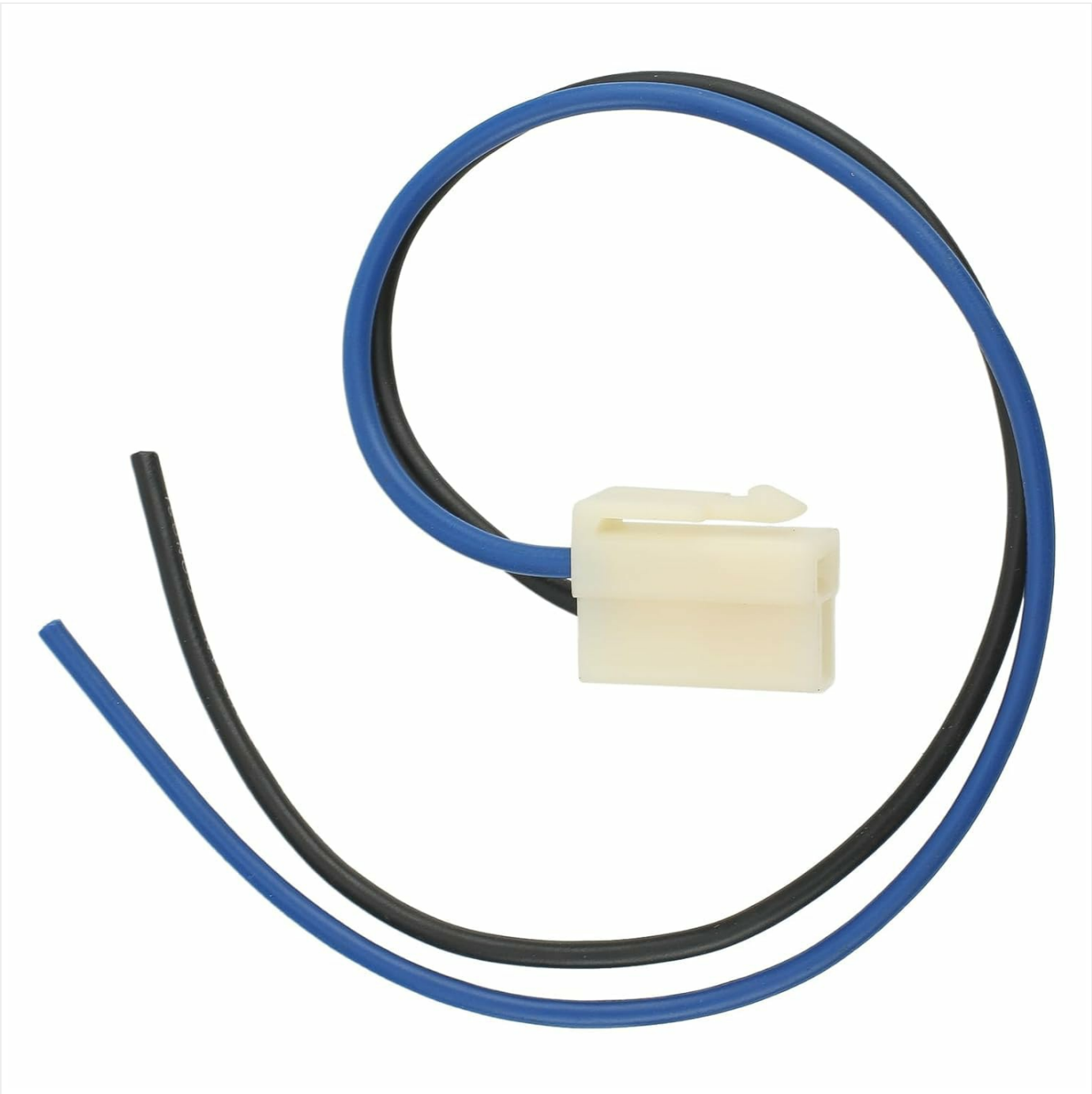


Image: Wiring harness with black and blue wires, terminating in a white connector.

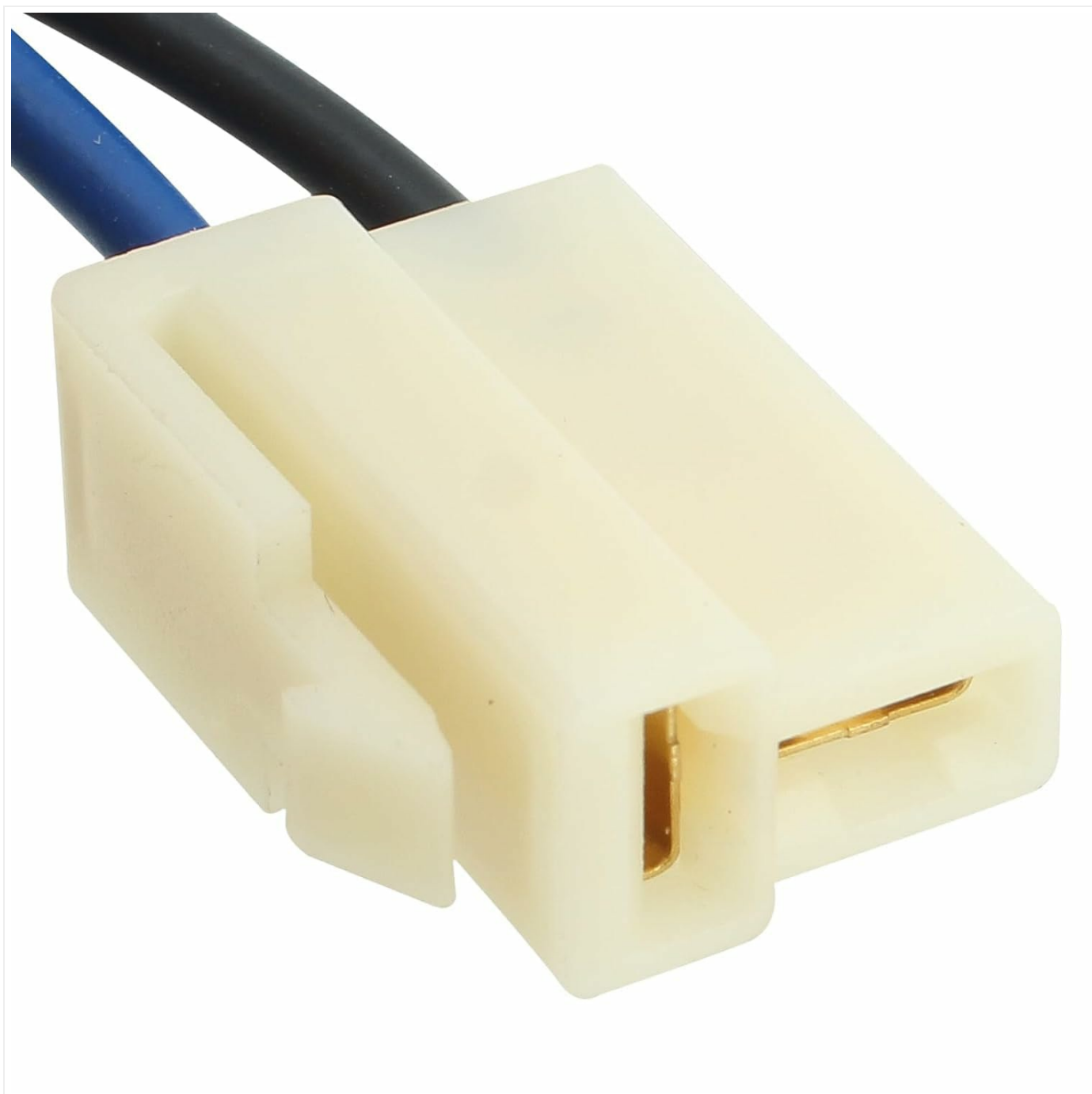


Image: Close-up view of the white electrical connector used for the fan wiring.

## 6. OPERATING INSTRUCTIONS

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Once properly installed and wired, the American Volt AV-1210X fans will operate based on the control method chosen during installation (e.g., temperature switch, manual switch). Ensure your vehicle's cooling system is filled with the correct coolant and is free of air pockets before operating the fans.

- **Automatic Operation:** If connected to a temperature switch, the fans will activate automatically when the engine coolant reaches the set temperature and deactivate when the temperature drops.
- **Manual Operation:** If connected to a manual switch, you can turn the fans on and off as needed. Monitor your engine temperature gauge to prevent overheating.

Regularly check the fan's operation, especially during initial use, to confirm proper airflow and cooling performance.

## 7. MAINTENANCE

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Minimal maintenance is required for these electric cooling fans. However, periodic checks are recommended to ensure optimal performance and longevity.

- **Cleaning:** Periodically inspect the fan blades and shroud for accumulation of dirt, debris, or leaves. Clean gently with a soft brush or compressed air. Avoid using harsh chemicals that could damage plastic components.
- **Wiring Inspection:** Check all wiring connections for signs of corrosion, fraying, or loose terminals. Ensure insulation is intact.
- **Mounting Security:** Verify that the fans remain securely mounted to the radiator or vehicle frame. Tighten any loose fasteners if necessary.
- **Blade Condition:** Inspect fan blades for any cracks or damage. Damaged blades can cause imbalance and reduce efficiency.

Always ensure the vehicle's battery is disconnected before performing any maintenance on the fans.

## 8. TROUBLESHOOTING

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If you encounter issues with your American Volt AV-1210X fans, refer to the following troubleshooting guide:

Problem	Possible Cause	Solution
Fans do not turn on	No power to the fan; Blown fuse; Faulty relay or temperature switch; Loose wiring connection; Damaged fan motor	Check fuse/circuit breaker; Verify 12V power at fan connector; Test relay and temperature switch; Inspect and secure all wiring connections; If motor is damaged, replace the fan.
Fans run continuously	Stuck temperature switch; Wiring short circuit	Test or replace temperature switch; Inspect wiring for shorts and repair.
Low airflow or unusual noise	Debris obstructing blades; Damaged or unbalanced blades; Motor issue	Clean fan blades and shroud; Inspect blades for damage and replace if necessary; If motor is noisy or weak, replacement may be needed.
Engine still overheats	Fans not configured correctly (puller/pusher); Insufficient fan capacity; Other cooling system issues (low coolant, faulty thermostat, clogged radiator)	Verify fan direction (airflow); Ensure fans are operating at full power; Check other components of the cooling system.

If the problem persists after attempting these solutions, it is recommended to consult a professional automotive technician.

## 9. WARRANTY INFORMATION

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American Volt products are manufactured to high-quality standards. For specific warranty terms and conditions, please refer to the warranty card included with your purchase or visit the official American Volt website. Keep your proof of purchase for any warranty claims.

## 10. SUPPORT

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For technical assistance, troubleshooting, or questions regarding your American Volt AV-1210X fans, please contact American Volt customer support through their official website or the contact information provided with your product packaging.

You can also visit the [American Volt Store on Amazon](#) for more product information and resources.

